A MARKET-BASED APPROACH FOR CROSSING THE VALLEY OF DEATH

The Benefits of a Capital Gains Exemption for Investments in Startups

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Introduction

For new companies, substantial third-party capital often is needed to get off the ground or to move from concept to prototype. It can be a challenge to obtain sufficient equity capital to make the transition, or, as many have called it, to cross "the valley of death." Some believe this leap can be made only with government funding.

Yet, in the wake of the failure of Solyndra, a solar panel manufacturer backed by more than $500 million in federal guarantees that nonetheless went bankrupt, and with pressing budget challenges confronting the government at all levels, it is unlikely that direct government funding is going to be the answer to the valley of death problem, whether it be in the form of equity, loans, or loan guarantees. One partial solution may be more activity by stand-alone corporate venture funds. Yet, while the macro environment remains uncertain, these cash-rich investors are likely to continue to be risk-averse for some time. And while angel investors tend to be more willing to make seed or initial financing investments, they, too, have shied away from taking on too much risk in the current economic climate.

But what if government policy could be changed to significantly reduce the risk and/or enhance the after-tax reward from such long-term investments? One could make the case that this could considerably shorten or perhaps even eliminate the valley of death for at least some capital-intensive startups. A side benefit is that a *startup-neutral* solution also could help other young companies that need less but still not insignificant amounts of outside capital to propel their companies into the growth phase.

In fact, there is an idea—already in place in some form from 2009 through the end of 2011—that could accomplish these objectives: an exemption on capital gains on investments in startups held for at least five years. As of yet, this exemption has not been extended, although it has been proposed for extension by the Administration, and is embodied in the Startup Act legislation introduced by Senators Moran and Warner and in a Small Business Tax Extenders Bill backed by Senators Snowe and Landrieu.

As this short note will show, this exemption boosts the after-tax returns on such investments in startups and should induce substantial levels of new investments in startup firms. We estimate that this exemption would increase such important risky investments by conservatively 50 percent more than the $0.5 billion annual and $5 billion ten-year revenue loss from the provision.

An increase in equity investments of this magnitude—$750 million annually and $7.5 billion over a ten-year period—is likely to be concentrated in new companies with high growth potential. This is important because, while only a small fraction of startups subsequently experience rapid growth, it is these companies that

account for a disproportionate share of net new jobs generated by startups in general, which, until the recession, accounted for virtually *all* net new jobs created in the U.S. economy since the late 1970s.

The Capital Gains Exclusion for Startup Investments: A Brief History

Until 2009, non-corporate taxpayers were permitted to exclude 50 percent of the gain from the sale of stock in startups (qualified small business stock or QSBS) if the investments were held for five years. The Recovery Act enacted in 2009 raised the exclusion, as of February 17, 2009, to 75 percent through December 31, 2010. To qualify, an investment had to have been made in a C corporation whose gross assets did not exceed $50 million. The Small Business Jobs Act (SBJA) again raised the exclusion, this time to 100 percent, through the end of December 2011.[2] Beginning in 2012, it appears that startup investments no longer receive any special capital gains treatment.

Throughout the period considered in this essay, the tax rate on the gains from the sale of any capital asset held longer than twelve months has been 15 percent for individual taxpayers subject to marginal income tax rates of 25 percent or more. Under Section 1202 of the Internal Revenue Code, 50 percent of the gain on the sale of QSBS was excluded pre-2009, up to a limit (roughly $10 million). Beyond the threshold, the gain on QSBS is taxed at a 28 percent rate, which, taking account of the 50 percent exclusion, implied a marginal tax rate of 14 percent. The 100 percent exclusion that expired at the end of 2011 reduced that marginal tax rate to zero.

Costs and Benefits of the Capital Gains Exclusion for Startup Investments

The Administration has proposed making permanent the 100 percent exclusion for investments in C corporations held for at least five years (with the same exclusions as under earlier law). Under standard "static" scoring assumptions that take no account of any revenue on wage or capital income generated by any additional growth, the Joint Tax Committee scored this proposal at generating revenue losses of $5.1 billion over ten years, or approximately $0.5 billion annually.[3] This estimate is measured against the preexisting 50 percent exclusion.

So far, there has been limited information relating to the benefits of the proposal that includes special startup provisions. The *Economic Report of the President, 2011* (page 151) indicated only that the increase in the percentage exclusion under the SBJA would benefit one million firms (apparently not counting the firms

[2] Some types of corporations were excluded from the tax benefit: investments in health care, law, engineering, architecture, hospitality, farming, insurance, finance and mineral extraction. In effect, the tax benefit appears to be aimed primarily at technology and life sciences companies.
[3] See www.jct.gov/publications.html?func=startdown&id=3773.

ineligible for the capital gains tax benefit), but didn't provide estimates of the expected increase in investments in startups or jobs created.

We advance here a plausible, yet conservative estimate of the additional investments in startups from a permanent 100 percent exclusion from capital gains taxes for investments held at least five years, compared with the prior 50 percent exclusion. Although for reasons spelled out below we are unable to supply a direct estimate of the jobs created by such a provision, we do provide some indirect evidence about the important job-creating impact of encouraging additional startup activity, especially among companies requiring sizeable initial equity investments that are likely to be high-growth.

Estimated Additional Investment:

We begin by estimating a baseline amount of equity capital invested in startups. Equity can be provided from three sources, in ascending order of likelihood: formal venture capital, "angel capital" (investments by wealthy individuals or groups of such individuals, or friends and family), or by the founders themselves.

According to the National Venture Capital Association, venture capital firms provided $1.8 billion in "seed funding"—investments in startup companies that broadly should qualify for any capital gains preference—in 2010, the latest year for which such data exist.[4] The best estimate for seed investment by angel capitalists in that year was $6.2 billion,[5] yielding an $8 billion total of third-party seed capital investment.

It is reasonable to assume that all or virtually all of this $8 billion in seed funding was invested in traditional C corporations, the corporation form most suitable for a company to later go public (and provide an "exit" for the third-party investors), and also the only organizational form eligible for the capital gains preference. Some additional C corporation seed investments surely were made by entrepreneurs themselves, although most sole proprietors are likely to use other organizational forms (limited liability corporations, subchapter S corporations, or unincorporated entities). We conservatively assume that entrepreneur seed investments added another $2 billion in 2010, bringing the total baseline investment eligible for the capital gains preference to $10 billion.[6] Admittedly, this

[4] National Venture Capital Association, *Yearbook 2011*, Figure 6, p. 12.
[5] Center for Venture Research, "The Angel Investor Market in 2010: A Market on the Rebound," April 12, 2011, available at www.unh.edu/news/docs/2010angelanalysis.pdf.
[6] The Kauffman Firm Survey (KFS) is the only available comprehensive longitudinal database of new U.S. firms. The KFS follows 5,000 randomly selected firms that were launched in 2004, a year that, coincidentally, was about the mid-point of the last economic expansion. According to the KFS, the average reported owner's equity in firms started that year was about $32,000, which, adjusted for inflation to 2010, comes to about $35,000. A reasonable approximation of the amount of owner-supplied equity for firms launched in 2010 could be either higher or lower than this figure (we wouldn't know the exact figure without replicating the KFS methodology for 2010, which is not economically feasible for purposes of this short note). Multiplying the $35,000 by the

figure takes no special account of the industry exclusions built into IRC 1202,[7] but we do not believe this is a serious problem because these industries generally are not the kinds that attract significant third-party investment, especially by venture capital firms and angel investors.

To estimate how much *additional equity investment* might be generated by a permanent capital gains exemption for such activity, we need to estimate both the additional after-tax return made possible by that exemption and the responsiveness (technically, the "elasticity") of investment to that additional return.

A reasonable assumption in the current interest-rate environment is that the baseline real pre-tax return on privately held investments in startups is 10 percent: 5 percent above the expected 5 percent annual real return in the stock market (3 percent for real GDP growth and another 2 percent for dividend yield). This implies that $100 invested at a 10 percent pre-tax return will be worth $161 five years from now (multiplying the 100 by 1.1, and then multiplying that result by 1.1, and so on over five years). This is also the amount an investor would have if the capital gains tax were zero.

Compare this to the after-tax return if the gains were taxes at 14 percent. This level of tax would reduce the net return to $152, implying an annual after-tax return of 8.7 percent. In short, the presence of the tax reduces the return by approximately 1.3 percentage points. If 8.7 percent is thus the base pre-tax return, a 1.3 percentage point increase in that number represents a 15 percent increase in the after-tax rate of return (1.3/8.7). This calculation assumes, of course, that startup investments eligible for the exemption all are sold after five years (a longer holding period admittedly would imply a smaller increase in the annualized after-tax return, a subject which we address below).

What, then, is the responsiveness, or elasticity, of investment to changes in the rate of return? Based on conversations with other economists experienced in such matters, we believe a conservative elasticity figure is 0.5, implying that a 15 percent increase in the real return of startup investment should conservatively lead to a 7.5 percent increase in the volume of investment.[8]

On a baseline level of $10 billion investment in startups, this percentage increase translates *into $0.75 billion in additional investment in new companies per year, or $7.5 billion over a ten-year period,* which would be generated by exempting such investments from capital gains taxes. This increase compares to an

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roughly 500,000 firms started in that year yields an estimated $17.5 billion in equity supplied by all owners. Our conservative estimate of $2 billion channeled to C corporations in that year is thus only a fraction of the overall estimate of seed capital supplied by entrepreneurs in 2010.

[7] See the list in footnote 2.

[8] This elasticity is the lower bound of estimates from the responsiveness of physical investment to the *cost* of capital, which we apply here to the *return* on capital. For citations see the Appendix.

estimated revenue loss to the Treasury under static scoring conventions of $0.5 billion per year, or $5 billion over a ten-year scoring window. In other words, the estimated increase in risk capital due to the 100 percent capital gains exclusion is roughly 50 percent greater than the estimated static revenue loss to the Treasury.

There are two forces working in opposing directions that could move this estimate either higher or lower. On the one hand, because the baseline level of seed investment, being as it is based on 2010 figures, is likely to be conservative, the incremental effect of the exemption should be greater over time. As the economy continues to pick up, even at a slow rate, seed investors are likely to become less risk averse and increase their investments in risky investments, including startups. A capital gains exemption would only accelerate this process and amplify the amount of capital going into high-growth startups. A higher baseline of seed investment implies a higher incremental effect of the exemption.

On the other hand, we also recognize that our assumption of a five-year holding period of investments in startups is aggressive. It is likely that the average is above that, perhaps as long as ten years, which would cut down the estimated increase in the rate of return due to the exemption, and therefore reduce the additional investment expected.

It is our judgment that these two different effects are likely roughly to cancel out over time, leaving our point estimate of the increase due to the permanent exemption more or less intact.

Additional Jobs

Ideally, it would be nice if we also could translate the estimated increase in seed investment into an estimate for additional jobs created, but this is not straightforward, for at least two reasons.

First, some unknowable portion of that additional $0.75 billion per year would come from a shift out of more conservative investments into riskier seed investment. Those conservative investments, whether government bonds or securities (bonds or equity) of publicly traded companies, also fund job creation. We have no good way of *directly* estimating the incremental jobs that additional investments in startups would generate.

Second, in any event, it is not clear how to count the jobs created by such investments. What numbers of jobs are directly created by the investment itself, and what numbers are due to the success of the entrepreneurs thereafter? This is not an easy line to draw.

Despite these difficulties of making *direct* job estimates, the *indirect* evidence shows that the amount of job creation from additional investment in startups is substantial. As a number of studies have documented, young companies (those five years old or younger, and even firms in their first year) accounted for virtually all net job growth from the late 1970s or early 1980s until the onset of the Great Recession.[9] Of these young companies, however, just 1 percent account for 10 percent of the overall net job growth,[10] indicating how important high-growth firms are to the job-creation process. Because firms accessing these sources of third-party capital are more likely than others to exhibit high growth, measures that would channel substantially more investment into startups should lead to the launch of more high-growth firms and boost the odds of success and thus the growth of companies that already have been started.

Conclusion

Without making any bold claim of a "free lunch," there is nonetheless a compelling case to be made that permanently exempting investments in startups from any capital gains taxes for five years would come reasonably close. It would conservatively boost annual equity investment in startups by 50 percent more than the annual revenue loss to the federal Treasury. Such investments also likely would be disproportionately channeled to potential high-growth firms, which also punch well above their weight in terms of job creation potential as compared to other startups. Given the need for additional jobs in this anemic recovery, the case for inducing additional startup investment through the capital gains tax exemption is strong.

[9] See, e.g., Dane Stangler and Robert E. Litan, "Where Will The Jobs Come From?," Kauffman Foundation Research Series on Firm Formation and Economic Growth, November 2009, www.kauffman.org/uploadedFiles/where_will_the_jobs_come_from.pdf.

[10] See Dane Stangler "High Growth Firms and the Future of the American Economy," March 9, 2010, Kauffman Foundation Research Series on Firm Formation and Economic Growth available at http://www.kauffman.org/newsroom/high-growth-firms-account-for-disproportionate-share-of-job-creation-according-to-kauffman-foundation-study.aspx.

Appendix

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